

In Response

Interspecies Generality and Human Behavior: An Addendum to Baron and Perone

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Several articles focusing upon the experimental analysis of human behavior (EAHB) have been published in the two previous issues of this journal. The two most recent papers have converged, in different ways, upon the dearth of published reports in this area. Buskist and Miller (1982) conducted a census of major journals publishing EAHB research since 1958 and concluded that few EAHB topics have been targets of intense empirical scrutiny. Baron and Perone (1982) begin their article with this fact and go on to discuss several misconceptions which have impeded or at least hindered EAHB growth. These misconceptions center around demand characteristics of the experimental situation in compound with divergent intersubject pre-experimental histories, certain ethical considerations which may place undue constraint on the variety of EAHB topics which may be investigated, and the notion that variation in individual performance is beyond experimental control.

While we agree with Baron and Perone that these issues have retarded EAHB research and also with their arguments as to why each of these issues has become unnecessarily convoluted, we posit that there is an additional misconception, not directly related to EAHB but to a more fundamental aspect of behavior analysis—*interspecies generality*—that has also served to obstruct development of a more robust experimental analysis of human behavior. Although this notion was implicit in some of Baron and

Perone's arguments, we feel it deserves more candid regard at this time.

There are some behavior analysts who would lead us to believe that rats and pigeons constitute elegantly simple versions of the human and that by studying environmental variables that control infrahuman behavior we learn how similar variables control human behavior. (Moreover, many, if not most, introductory texts usually contain statements justifying the use of non-human animals in the quest to explain human behavior). This view is epitomized in Epstein's recent article (1981) in this journal: "Of pigeons and people: A preliminary look at the Columbian simulation project." Briefly, Epstein argues that the pigeon, not the computer, is the better candidate to simulate human behavior since pigeons, like humans, are living creatures which have a long history of natural selection and both "have shared similar environments throughout this period." He describes several simulations of complex human behavior such as competition, symbolic communication, self-awareness, the use of memoranda, and insight. Humans are apparently not good candidates as subjects in these types of research since "we cannot easily isolate and control the necessary variables" of which their behavior is a function.

From our vantage there is real danger in such perspectives. Most obviously, is the absurd but tacit notion that we can only pose empirical questions about human behavior—and expect to get valid answers, if infrahumans are used as experimental subjects. Central questions about human behavior may thus be overlooked or neglected. While Epstein's (and other's) simulations are certainly titillating, they may lead to the same unproductive digressions and unprofitable

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speculations as those produced by computer modelers. Why persist in pursuing metaphorical avenues of analysis (see e.g., Marr, 1983)? To discover and verify variables that control human behavior only a thorough-going functional analysis of human behavior employing human subjects will suffice.

This line of reasoning is also undercut by numerous reports which indicate that human performance on presumably elementary reinforcement schedules is at considerable variance with performance typical of animals (see e.g., Lowe, 1979). Moreover, in some cases where replication has been apparently successful, there remain subtle and/or as yet, unexamined interspecies differences. For example, when humans are used as subjects in experiments involving concurrent variable-interval variable-interval schedules, their behavior is very similar to that of pigeons and rats—relative allocation of responses “matches” the relative distribution of reinforcements, i.e., behavior conforms to the well known matching law. However, the response rates of human subjects are usually much higher than those of animal subjects (humans typically respond several times per second) and are apparently not sensitive to changes in component values. Thus, while much of human operant research has involved the effort to replicate findings obtained earlier with nonhuman animals, and while such efforts have occasionally been successful, there is adequate evidence of discrepancy to justify EAHB in its own right.

Furthermore, there are some behaviors that may be considered uniquely human such as verbal behavior and certain social behaviors. In these cases it is only appropriate to employ human subjects. Hake (1982) has recently made this point very clear: “The bottom line is that for these types of behaviors animal laboratory research is not the best place to begin . . . if an animal is simply not observed to engage in cooperation, trust

or certain grammatical autoclitics in its natural habitat and only with extreme difficulty in an experiment arranged to produce these behaviors that animal *is not* the species to use (p. 25, italics added).

We are not asserting that general principles of behavior discovered and embellished upon over years of animal research are wholly inadequate to account for human behavior. Nor are we claiming that only through the use of human subjects will we derive a complete and coherent account of human behavior or that EAHB should become a separate and distinct subfield of operant psychology. Rather, to fully understand the variables that govern human behavior, the best approach is to simply investigate manipulations of those variables using human subjects. The work of Baron, Hake, Sidman and their colleagues, among others, attests that it can be done. Baron and Perone’s closing statement regarding the contribution that EAHB can make to operant psychology misses the mark. The important point is what operant psychology can contribute to our understanding of the variables that govern human behavior.

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